

## REMARKS

Claims 1, 13 and 20 have been amended. Claims 1-12, 14-16, and 21 have been canceled. Claims 22-36 have been added. The application now includes claims 1, 13, 20, and 22-36.

The amendment to claim 20 overcomes the objection raised on the spelling of the word “from”.

Claims 1, 13, 20, 26, 28, 32, 34, and 36 are independent claims. The applicant has previously paid for four independent claims, and authorizes the Commissioner to charge attorney's deposit account 50-2041 (Whitham, Curtis, Christofferson & Cook) for four additional independent claims.

The undersigned appreciates the courtesy the Examiner extended during the Examiner's Interview on November 20, 2008. The amendments incorporate comments made during the Interview. In particular, it was noted that Figures 2 and 3 show alternative embodiments of the invention. In Figure 2, the remote apparatuses 2-1 to 2-m each receive one or more wavelengths of the given plurality of wavelengths used in the wavelength division multiplex system. Page 13, lines 14 and 15, explains that the station apparatus 1 transmits only the wavelengths which are transmitted to it by the remote apparatuses. Thus, in the Figure 2 embodiment, as explained on page 12 of the application, when a wavelength controller 24-m of a remote apparatus to be added identifies a signal that is not received of the given plurality of wavelengths, that wavelength is set as the wavelength to be used for communications between the remote apparatus and the station apparatus. In contrast, in the Figure 3 embodiment, the remote apparatuses receive only one signal having a particular wavelength. As explained on page 15, at lines 14-16, in the second embodiment allows the optical transmitter to output an optical signal that is not in use constantly, and the remote apparatus identifies this unused wavelength by having the optical wavelength controller 24-m, change the optical signal wavelength to be separated by the wavelength filter from one to another until the constant optical signal is found (see page 17, lines 20-26).

Both embodiments have the distinct advantage of eliminating the need for preinstalling a wavelength stabilized laser having a predetermined wavelength. In

short, the remote apparatus is able to autonomously set a wavelength for use (i.e., the need to have a maintenance person set the wavelength is eliminated, and the need for setting a wavelength tunable laser beforehand so as to output a predetermined wavelength is eliminated).

Claims 1-16, 20, and 21 were rejected under 35 U.S.C. 112, first paragraph. This rejection is traversed in view of the amendments above.

Based on the interview, the different embodiments of the invention have been set forth in separate independent claims. Claims 1, 13, 20 and 26 (and the dependent claims therefrom) pertain to the embodiment of Figure 2, and claims 28, 32, 34, and 36 (and the dependent claims therefrom) pertain to the embodiment of Figure 3. However, all claims relate to a system which permit a remote apparatus to autonomously determine an available wavelength. In addition, claims 13 and 26 (and their dependent claims) and claims 32 and 34 (and their dependent claims) pertain to the remote apparatus per se or operations which are performed at the remote apparatus. Each of the independent claims now specify that the wavelength control means controls the wavelength separating means (as is pointed out on page 3 of the office action). In addition, with respect to claim 20, reference to the “wavelength selecting means” has been eliminated.

Claims 1-16, 20 and 21 were rejected under 35 U.S.C. 112, second paragraph. This rejection is traversed in view of the amendments above.

As was noted during the interview, in the embodiment of Figure 3 each remote apparatus receives only one wavelength, while in the embodiment of Figure 2 each remote apparatus receives all of the wavelengths which are transmitted by the station apparatus. As shown in each of the figures, in an exemplary embodiment wavelength separating device is the filter. In the Figure 2 embodiment, the remote apparatus is looking for whether or not a wavelength of the group is received—if it is not received, then that wavelength is assigned autonomously for communication with the station apparatus. In the Figure 3 embodiment, the wavelength controller changes the control signal to the filter until the constant signal is received, and that wavelength is then uses for communication between the added remote apparatus and the station apparatus. Reference to the “wavelength selecting means” is eliminated from all independent claims to avoid a lack of clarity in any of the claims, particularly including claim

20 identified in the office action.

Claims 1-4, 8-16, 20 and 21 were rejected as being obvious over the applicant admitted prior art ("AAPA"; identified as Figure 1 of the application and the Background of the invention) in view of U.S. Patent 6,101,014 to Majima and U.S. Patent 5,212,577 to Nakamura. Claims 5-7 were rejected as being obvious over the AAPA in view of Majima and Nakamura, further in view of U.S. Patent Publication 2003/0118280 to Miyazaki. These rejections are traversed.

The AAPA does not disclose a system or remote apparatus where the remote apparatus the remote apparatus is permitted to autonomously determine an available wavelength. Rather, as noted on page 23 of the office action, "As disclosed in the AAPA, for a conventional system, each time a new remote apparatus is installed, a wavelength to be used in that system must be set by a maintainer or other personnel. And collisions between signals may occur and action must be taken to handle them". The present invention solves this problem. By contrasting Figure 1 with Figures 2 and 3, it can be clearly seen that there is no filter in the remote apparatus of the AAPA, and there is no connection between a filter and the wavelength controller, or the optical receiver and the wavelength controller. Basically, the AAPA lacks all of the salient features of the claimed invention and provides no mechanism to address the problem identified by and solved by the applicant.

U.S. Patent 6,101,014 to Majima teaches that an optical node sweeps an optical signal over a range of wavelengths from  $\lambda_{Min}$  to  $\lambda_{Max}$  and detects the wavelength disposition of the existing wavelengths. Majima does NOT teach identifying a wavelength which is NOT transmitted (see Figure 2 embodiment of the claimed invention) and does NOT teach identifying a single wavelength that is transmitted by the station apparatus (see Figure 3 embodiment of the claimed invention). Rather, in Majima, the optical node sets a wavelength for transmission using the detection result so that the wavelength is spaced by the required channel spacing for an existing wavelength on one end of any group of existing wavelengths (see column 12, lines 4-10; and column 13, lines 62-67).

U.S. Patent 5,212,577 to Nakamura teaches the use of a variable wavelength filter 55 to sweep a range between wavelengths  $\lambda_A$  and  $\lambda_B$ , and checking whether there is an acknowledgment signal for transmission (see column

6, lines 43-55). Figures 3 and 9 show that all wavelengths between  $\lambda_A$  and  $\lambda_B$  are checked. Thus, Nakamura does NOT teach identifying a wavelength which is NOT transmitted (see Figure 2 embodiment of the claimed invention) and does NOT teach identifying a single wavelength that is transmitted by the station apparatus (see Figure 3 embodiment of the claimed invention).

In short, both Majima and Nakamura do not make up for the deficiencies of the AAPA, and any combination of the three would wholly lack the salient features of the claimed invention, e.g., with respect to the Figure 2 embodiment checking for a wavelength that is not transmitted and autonomously setting the remote station to that wavelength; and with respect to the Figure 3 embodiment checking for a single wavelength that is transmitted by the station apparatus. As such, the rejection of any claims for obviousness over the AAPA, Majima and Nakamura should be withdrawn.

Similarly, Miyazaki does not make up for the deficiencies of the AAPA, Majima and Nakamura. For example, as noted in the Abstract, the optical carrier of Miyazaki has a predetermined wavelength. Thus, while none of the rejected claims remain in the case, no rejection should be made of any of the claims as being obvious over any combination of AAPA, Majima, Nakamura and Miyazaki.

In view of the foregoing, it is respectfully requested that the application be reconsidered, that claims 1, 13, 20, and 22-36 be allowed, and that the application be passed to issue.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

A provisional petition is hereby made for any extension of time necessary for the continued pendency during the life of this application. Please charge any fees for such provisional petition and any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 50-2041.

Respectfully submitted,



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